REMARKS

The present amendment is prepared in accordance with the new requirements of 37 C.F.R. § 1.121. The clean copy of the claims is provided above. The marked-up copy of the claims is attached on separate sheets. In the marked-up version of the claims, inserted material is underlined and deleted material has a line therethrough.

The subject application is a continuation application of parent application Serial No. 08/425,958 filed on April 19, 1995, now U.S. Patent No. 6,008,296. In the parent application conflicting subject matter was indicated with U.S. Patent No. 5,736,609 ('609) issued April 7, 1998 to Irizato et al. and assigned to Mitsui Toatsu Chemicals, Inc. To overcome said conflicting claims, the claims in the parent application were amended to specifically exclude the type of polythiol monomer defined and claimed in the '609 patent.

Applicants have filed the subject application to copy all the claims of the '609 patent and the claims 23-58 added in the Preliminary Amendment for the subject application correspond exactly to claims 1-36 of the '609 patent. Further, the original claims 1-22 of the parent application were continued in the subject continuation application and after amendment are now claims 116-135.

Regarding the rejection of claims now 116-135 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-

24 of U.S. Patent No. 6,008,296, it is respectfully submitted that Applicants will file a Terminal Disclaimer when allowable subject matter is indicated.

Claims 121-123 and 133 have been rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Specifically, the definition of R_3 is confusing in that the Markush terminology is not used as in the previous claims. Claim 123 has been rejected under 35 USC 112, second paragraph, because the subject matter of claim 123 fails to further limit claim 121 on which it depends. Claim 129 has been rejected under 35 USC 112, second paragraph, since the word "composition" has been spelled incorrectly. Claims 134 and 135 have been rejected under 35 USC 112, second paragraph, for a grammatical error and also as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicants regard as the invention. Specifically, Applicants have claimed a curable monomer composition and the Examiner contends that it is unclear that the polymerization language refers to producing the terpolymer and that it is unclear that claim 134 is directed to anything other than the monomer composition.

Claims 121, 123, 129 and 134 have been amended to overcome the above rejections under 35 USC 112. Specifically, Markush language has been added to claim 121 and claim 123 has been amended to depend on claim 116. Claim 129 has been amended to correct the spelling error and claim 134 amended to define a curable monomer composition as consisting essentially of the composition of claim

116 which is in solution in a solvent and which solution is then polymerized and an elevated temperature to form the terpolymer. It is respectfully submitted that the claims are properly allowable under 35 USC 112.

Claims 116, 117, 124-132, 134 and 135 have been rejected under 35 USC 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors at the time the application was filed had possession of the claimed invention. Specifically, the Examiner contends that Applicants have failed to indicate where support exists for stating that the polyene contains only vinyl functional groups. In the parent application it is noted that the language was specified with a structural formula for the polyene which contains only vinyl functional groups. It is respectfully submitted that the claims are properly allowable under 35 USC 112, first paragraph.

If a claim whose language is clear and whose scope is understandable is so broad it exceeds the scope of the enabling disclosure of the specification, the claim is based on insufficient disclosure and should be rejected under 35 USC 112, first paragraph. *In re Borkowski et al.* (CCPA 1970) 164 USPQ 642. The reason a claim which is broader than the invention described in the specification should be rejected under 35 USC 112, first paragraph, is that a breadth rejection of this type is really an assertion that the specification is insufficient to support the claims. *In re Wakefield et al.* (CCPA 1970) 164 USPQ 626. It should be appreciated however that the first paragraph of 35 USC 112 requires nothing more than objective

enablement. Whether this is achieved by the use of illustrative examples or by broad terminology is of no importance. *In re Marzocchi et al.* (CCPA 1971) 169 USPQ 367. An assertion by the PTO that the enabling disclosure is not commensurate in scope with the protection sort must be supported by evidence or reasoning substantiating the doubts so expressed. *In re Armbruster* (CCPA 1975) 185 USPQ 152. In order to be entitled to the benefit thereof, it is not necessary that a parent application exactly describe the limitations of the a claimed process but need only to so clearly enough that those skilled in the art would recognize from the disclosure that Applicant invented the claimed process including those limitations. *In re Werthein et al.* (CCPA 1976) 191 USPQ 90. The public purpose on which the patent laws rest requires the granting of claims commensurate in scope with the disclosed invention. This requires granting broad claims for broad inventions as well as more specific claims for inventions. It is neither contemplated by the public purpose of the patent laws nor require by the statute that an inventor shall be forced to accept claims narrower than in his invention in order to secure allowance of his patent. *In re Sus et al.* (CCPA 1962) 134 USPQ 301.

Breadth alone is not indefiniteness. *In re Gardner et al.* (CCPA 1970) 166 USPQ 138. A broad claim which employs well-known language conventionally used in the art to which the invention pertains and which is of the same scope as the description of the invention as stated in the disclosure is not objectionable under the second paragraph, 35 USC 112, since it neither "too" broad in the sense of embracing a concept not stated in the original disclosure or is it vague or indefinite.

In re Kamal et al. (CCPA 1968) 158 USPQ 320. It is also established patent law that the mere fact that routine experimentation might be required to determine whether any particular embodiment of a class of compounds will be useful as an ingredient of the claimed composition alone is not sufficient reason to deny claims to a composition which recited the class broadly. *Atlas Powder Co. v. E.I. DuPont DeNemours & Co.* (CAFC 1984) 224 USPQ 409.

Applying the patent law to the facts of the subject patent application it is respectfully submitted that the claims are properly allowable under 35 USC 112, first paragraph. In the summary of the invention on page 4, the paragraph beginning at line 33, it is stated that it has been discovered that reacting effective amounts of polythiols with both polymers, preferably with three or higher number of vinyl groups in the monomers, and polyisocyanates results in a new class of terpolymers. On page 5, starting at line 9, a polyene monomer is defined as a compound containing two or more vinyl groups. A polyene monomer is further defined in the paragraph beginning at line 30 on page 7 and typical examples of polyene monomers are provided on page 8, the paragraph beginning at line 3. Exemplary polyene monomers include those which contain only vinyl functional groups. In the examples set forth on pages 16-18 all the polyene monomers used as component C contain only vinyl groups. It is thus respectfully submitted that Applicants did in fact have possession of the claimed invention and that the claims are properly allowable under 35 USC 112.

Claims 23-58 and 80-115 have been rejected under 35 USC 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor at the time that the application was filed had possession of the claimed invention. Specifically, the Examiner contends that support is not shown for the range of polythiol compounds represented by formula 1 in claims 23, 27 and 55. Further, it is also contended that clear support has not been found for the terminology "neither a hydroxyl group nor a mercapto group" in claims 23, 27, 55, 80, 84 and 112. Lastly, it is also contended that support has not been found for the ratio range of claims 26, 30, 83 and 87. It is respectfully submitted that claims 23-58 and 80-115 have support in the specification under 35 USC, 112, first paragraph.

The subject invention is based on the discovery of forming optical terpolymers by reacting polythiols, polyenes and polyisocyanates.

One of the polythiol monomers specifically identified in the application is 1,2,3-propanetrithiol. This compound falls within formula (1) of claims 23 and 80 and shows that such polythiols are contemplated in the subject patent application.

Likewise, with regard to the polymer compound having neither a hydroxyl group nor a mercapto group, in the specification there was disclosed a number of polyene compounds which do not contain a hydroxyl group nor a mercapto group. Specifically, 1,6-hexane-diacrylate or dimethacrylate and pentaerythritol triacrylate or trimethacrylate and pentaerythritol tetraacreylate or tetramethacrylate as well as other polyenes set forth therein. Accordingly, a number of compounds are

disclosed which encompass polyenes containing neither a hydroxyl group nor a mercapto group.

With regard to the ratio range of claims 26, 30, 83 and 87 on page 11, column 13-20 of the subject application, the proportion of the monomers are indicated to range widely depending on the polymer properties desired. The ratio of NCO or NCS groups and vinyl groups to -SH groups is preferably in the range of 1.05 to 2.0 which includes the range of 1.0 to 3.0.

Accordingly, Applicants respectfully request declaration of an interference with Irizato et al. U.S. Patent No. 5,736,609 and/or allowance of claims 116-135.

It is respectfully submitted that the application has now been brought into a condition where allowance of the case is proper. Reconsideration and issuance of a Notice of Allowance are respectfully solicited. Should the Examiner not find the claims to be allowable, Applicants' attorney respectfully requests that the Examiner call the undersigned to clarify any issue and/or to place the case in condition for allowance.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service on the date indicated below as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231
Name: Carol M. Thomas Date: June 27, 2001 Signature:

opt20500amdE

VERSION WITH MARKINGS TO SHOW CHANGES MADE

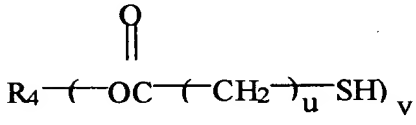
In the Claims

Claims 121, 123, 129, and 134 have been amended as follows:

121. (Amended) The composition of claim 120 wherein the polythiol monomer is selected from the group consisting of a compound represented by the formula:

HB–R3–(BH)z

wherein R_3 is an organic group selected from the group consisting of polyvalent aliphatic or alicyclic and aromatic hydrocarbon, z is an integer of 1 to 3, and B is S; and



wherein R_4 is a substituted or unsubstituted aliphatic polyhydric alcohol residue, u is an integer of 1 or 2, and v is an integer of 2 to 4.

123. (Amended) The composition of claim ~~121~~ 116 wherein the polyene is triallyl-1,3, 5-triazine-2,4,6(1H, 3H, 5H)-trione.

129. (Amended) The process of claim 124 wherein the composition is cured by heating the ~~omposition~~ composition to a first temperature of about 0° to 60°C, then heating the composition gradually to a second temperature of about 100 to

150°C over a period of about 1 to 32 hours, maintaining the composition at the second temperature for about 4 to 32 hours, then cooling the composition to a third temperature of about 20 to 40°C over a period of about 1 to 32 hours.

134. (Amended) A curable monomer composition for making a linear homogeneous terpolymer which terpolymer has a single glass transition temperature, does not have any phase separation and which is optically clear consisting essentially of the composition of claim 116 in solution in a solvent and which solution is polymerized or bulk polymerized at an elevated temperature to form the terpolymer.